REMARKS

This paper is a submission required under 37 C.F.R. §1.114 and is responsive to a final Office action dated May 19, 2004. Claims 21-55 were examined. All examined claims were rejected.

Rejection of Claims 21-55 under 35 USC § 102(b)

Claims 21-55 were rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,168,564 issued to Barlow et al. (hereinafter referred to as "Barlow").

Claims 21, 32, and 45

In support of its rejection of Claims 21, 32, and 45, the Office states that Barlow teaches locking a resource to be accessed by an executable computer instruction prior to completing a determination of hazards related to the access (Barlow, column 1, lines 50-61, through column 2, lines 40-64).

Barlow discloses using a lock indicator device to prevent more than one processing unit at a time from performing a read modify write (RMW) operation (column 1, lines 50-61). Barlow further discloses that a cancel command can be issued to eliminate the execution of a particular command upon discovering that the command is invalid, e.g. for a wrong address, an improper operation, etc. (column 2, lines 40-46).

The Applicants submit that determining that a command is invalid, as disclosed by Barlow, is different than determining a hazard related to an access, as recited generally in claims 21, 32, and 45. A hazard, such as the hazard referred to in claims 21, 32, and 45, refers to, e.g. a read after write hazard, or other dependency or interaction between two or more instructions (See Applicants' Specification, page 14, line 24 through page 15, line 20). The invalidity of a command referred to in Barlow, rather than being a hazard between instructions, refers to some problem involving a single command, e.g. a wrong address or improper operation.

The Applicants respectfully submit that even though Barlow provides for canceling a command upon discovering that command is invalid, it does not necessarily follow that the

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invalidity of a command is determined at the same time, or before, read after write hazards associated with the load operation are determined. Thus, Barlow discloses no relationship between determination of a hazard and determination that an instruction is invalid, and thus Barlow does not teach or suggest locking a resource prior to completing a determination of hazards.

Nevertheless, in the interest of advancing prosecution, claims 21, 32, and 45 have been amended to make clear that the determination of hazards refers to determining whether a hazard exists between the access and execution of a second instruction. These amendments do not add any new matter, and are fully supported by the specification as originally filed. The Applicants believe that these amendments do not narrow the scope of Claims 21, 32, and 45, but merely explicitly state what was already implicit in these claims prior to the amendments.

In view of the foregoing arguments and the foregoing amendments, the Applicants respectfully request the Office to withdraw its rejection of Claims 21, 32, and 45.

Claims 22-31, 33-41, and 46-55

Dependent claims 22-31, 33-41, and 46-55, depend from allowable independent claims 21, 32, or 45, respectively. For at least this reason, the Applicants respectfully submit that claims 22-31, 33-41, and 46-55, are in condition for allowance, which allowance is respectfully requested.

Claim 42

In rejecting claim 42, the Office states that Barlow teaches locking a resource before a command has been determined to have hazards, based on the fact that Barlow allows cancellation of a resource lock once it is determined that the command locking is invalid. The Office reasons that since the command can be canceled before the command is complete, it necessarily follows that the resource used by the command was locked prior to determining a hazard. The Applicants respectfully disagree with this reasoning.

As noted above with respect to independent Claims 21, 32 and 45, the invalidity of an operation referred to in Barlow is not equivalent to the read-after-write hazard referred to in

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independent claim 42. Thus, even though Barlow provides for canceling a command upon discovering that that command is invalid, it does not necessarily follow that the invalidity of a command is determined at the same time, or before, read after write hazards associated with the load operation are determined.

Thus, the Applicants submit that Barlow does not teach or suggest dispatching a load operation to a cache unit <u>prior to determining whether read after write hazards associated with a load operation are present</u>. Consequently, the Applicants respectfully request the Office to withdraw its rejection of claim 42.

Claims 43-44

Dependent claims 43-44, depend from allowable independent Claim 42. For at least this reason, the Applicants respectfully submit that claims 43-44, are in condition for allowance, which allowances is respectfully requested.

<div align="center">CONCLUSION</div>

In summary, claims 21-55 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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Steven R. Gilliam   Date

Respectfully submitted,

Steven R. Gilliam, Reg. No. 51,734
Attorney for Applicant
(512) 338-6320 (voice)
(512) 338-6301 (fax)

EXPRESS MAIL LABEL: ____ EV436536940US